REMARKS

Favorable reconsideration of this application is respectfully requested.

Claims 1, 3, 4, 6, 8-15, and 17-30 are pending in this application. Claims 2, 5, 7, and 16 are herein canceled without prejudice. Claims 1 and 30 were rejected under 35 U.S.C. § 102(b) as anticipated by U.S. patent application publication 2001/0020925 to Hattori et al. (herein "Hattori"). Claims 2, 17, 18, 19, 28, and 29 were rejected under 35 U.S.C. § 103(a) as unpatentable over Hattori. Claims 3-16 were rejected under 35 U.S.C. § 103(a) as unpatentable over Hattori in view of U.S. patent application publication 2002/0149549 to Ohta et al. (herein "Ohta"). Claims 20-27 were rejected under 35 U.S.C. § 103(a) as unpatentable over Hattori in view of U.S. patent application publication 2002/0145579 to Yamakita et al. (herein "Yamakita").

Initially, applicants note the outstanding Office Action indicates the information disclosure statement (IDS) filed March 18, 2005 has not been entered as no English Abstracts of the cited references were provided.[1] As noted in the previous Office Action, that IDS was submitted with a statement of relevancy, which applicants believe is all that is required for consideration of the references. However, to remote prosecution applicants are resubmitting a Form PTO-1449 relisting the references from that IDS and submitting English Abstracts of the noted references. Consideration of that IDS is again requested.

Addressing the above-noted prior art rejections, applicants respectfully submit the claims as currently written distinguish over the applied art.

The claims are herein amended to clarify features recited therein. For example independent claim 1 now incorporates certain limitations from previously pending dependent claim 2 and additional clarifying language. Independent claim 30 is similarly amended as in

[1] Office Action of November 25, 2008, bottom of page 12.

independent claim 1. Applicants submit such amendments to independent Claims 1 and 30 are clear from the original disclosure, and thus do not add any new matter.[2]

Claims 9, 10, 11 are herein amended to add a limitation that "a pixel electrode to which an individual voltage is applied with respect to each pixel and an opposed electrode arranged opposite to each pixel electrode are disposed on the liquid crystal layer". That feature was also previously recited in original dependent claim 2. The other claims are amended to make minor clarifications that are also believed to be clear from the original disclosure.

Applicants submit the claims as currently written positively recite features neither taught nor suggested by Hattori, and in view of the further cited art.

Independent claim 1 now recites:

> when an off signal is output from the switch, the driver applies a voltage equal to or higher than a critical voltage of the OCB mode liquid crystal which can be applied to each of pixels of the liquid crystal layer for a predetermined time, thereafter the driver applies a voltage lower than the critical voltage of the OCB mode liquid crystal for a predetermined time in order to transfer the liquid crystal layer to a splay orientation, and thereafter supplying of power to the driver from the liquid-crystal driving power supply is stopped.

Independent claim 30 now recites:

> applying a voltage equal to or higher than a critical voltage of OCB mode liquid crystal that can be applied to each pixel of the liquid crystal layer for a predetermined time, thereafter applying a voltage lower than said critical voltage of OCB mode liquid crystal for a predetermined time in order to transfer the liquid crystal layer to a splay orientation by the driver when the OFF signal is input; and

Applicants submit the above-noted features are neither taught nor suggested by the applied art.

[2] Support for those claimed amendments is believed to be clear form the original disclosure in Embodiments 2 and 3; the specification at page 35, lines 3-20; Figures 3, 4, and 8; and original dependent claim 2.

The claimed inventions can address problems that occur in a power-supply off sequence of a liquid crystal layer using OCD mode liquid crystal. As noted in the specification for example at page 3, lines 16-18, in such a device an image may not uniformly disappear from a display face depending on a display pattern, and thereby an uncomfortable feeling may occur to a user. As noted in the specification at page 5, lines 1-23, in a conventional power-supply off sequence, a portion to be quickly changed to a splay orientation and a portion to be slowly changed to the splay orientation are produced when changing from the bend orientation to the splay orientation among display screens after turning off the power supply because the applied voltage of each voltage of the liquid crystal layer depends on an image display. Therefore, in the predetermined time until completely changing to the splay orientation after turning off the power supply, a portion of the liquid crystal layer is already changed to the splay orientation, but an orientation state still between the bend orientation and the splay orientation may occur in another portion. In that case, when an external light is strong, the difference between orientation states of various portions of the liquid crystal layer may be seen as an unevenness even if turning off a backlight.

Further, and as noted in the present specification at page 6, lines 1-6, when turning on the power supply again, in a time until completely changing to the splay orientation after turning off the power supply, a long transfer driving period of changing to the bend orientation is needed when the power supply is turned on and an excessive time is required until an image is displayed after turning on the power supply.

The claimed invention addresses such drawbacks recognized by the present inventors. To address such drawbacks, in the claimed invention when an ***off signal is output from the switch***, the driver applies a predetermined voltage equal to or higher than a critical voltage of the OCB mode liquid crystal that can be applied to each of the pixels of the liquid crystal layer for a predetermined period of time. Thereafter the driver applies a voltage lower than

the critical voltage of the OCB mode liquid crystal for a predetermined time in order to transfer the liquid crystal layer to a splay orientation, and thereafter supplying of power to the driver from the liquid-crystal driving power supply is stopped. With such a claimed structure, and as noted in the present specification at page 26, line 24 to page 27, line 8, an unevenness does not occur at a portion of a splay orientation and a portion of a bend orientation after turning off the liquid crystal driving power supply, and unevenness is not seen on the display face even if the external light is strong, and further a period until an image is displayed after turning on the power supply again can be decreased because the second splay orientation is not present.

Applicants submit the outstanding rejection is misconstruing the teachings of Hattori with respect to the above-noted claimed features as Hattori does not disclose or suggest the applications of the specific applied voltage when an OFF signal is output from a switch.

One basis for maintaining the rejection based on Hattori states:

> Hattori clearly teaches off signal (voltage pulse, [0087]) that is output from a switch (fig. 3, [0086]-[0089]). Hattori teaches a driver (fig. 3 (12, 13)) that applies a predetermined voltage to each of the pixels of the liquid crystal layer for a predetermined period of time ([0086]-[0089]).[3]

Applicants traverse that grounds for rejection and respectfully submit Hattori does not disclose or suggest the features specifically now recited in independent claims 1 and 30, and thereby the claims dependent therefrom. Independent claims 1 and 30 recite when an off signal is output from the switch, the driver applies a voltage equal to or higher than a critical voltage of the OCB mode liquid crystal, and thereafter the driver applies a voltage lower than the critical voltage of the OCB mode liquid crystal, to transfer the liquid crystal layer to a splay orientation. Those claims also recite thereafter supplying of power to the driver from the liquid-crystal driving power supply is stopped.

[3] Office Action of November 25, 2008, Page 13, first paragraph.

The claimed liquid crystal display apparatus and method can restrain the appearance of unevenness on a display screen after turning off a power supply on a liquid crystal display apparatus using OCB mode liquid crystal.

In contrast to the claimed operations, Hattori discloses only when main power of the liquid crystal display apparatus 1 is switched on (Hattori, [0088]), the liquid crystal display apparatus 1 applies the voltage in order to transform the liquid crystal layer 7 from spray alignment to bend alignment (Hattori, [0087]), and then is shifted to a display driving mode (Hattori, [0089]).

From such disclosures applicants submit it is clear Hattori discloses a liquid crystal display apparatus 1 applies a voltage pulse to transform the liquid crystal layer 7 from a spray alignment to a bend alignment. That disclosure in Hattori does not correspond to the clarified claimed features of a driver applying "a voltage lower than said critical voltage of the OCB mode liquid crystal... in order to transfer the liquid crystal ***to a splay orientation***" (emphasis added) as specifically recited in independent claim 1, and as similarly recited in independent claim 30. Hattori discloses a contrary structure as claimed as Hattori does not disclose transferring a liquid crystal ***to a splay orientation***, but instead ***from*** a spray orientation ***to a bend alignment***.

Hattori as noted above also merely notes then shifting to a display-driving mode, which differs from the claimed features of then "supplying a power to the driver from the liquid-crystal driving power supply is stopped", as also recited in independent claim 1 and as similarly recited in independent claim 30.

In view of the foregoing comments applicants respectfully submit each of amended independent claims 1 and 30 as currently written positively recites features neither taught nor suggested by Hattori, and thus each of the currently pending claims is allowable over Hattori.

Moreover, no disclosures in any of the further cited references to Ohta or Yamakita were cited with respect to the above-noted features, an no further disclosures in Ohta or Yamakita are believed to cure the above-noted deficiencies in Hattori with respect to the claims as currently written.

As no other issues are pending in this application, it is respectfully submitted that the present application is now in condition for allowance, and it is hereby respectfully requested that this case be passed to issue.

Respectfully submitted,

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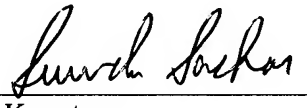
MAIER & NEUSTADT, P.C.



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